

ON THE SUSTAINABILITY OF FAST FASHION SUPPLY CHAINS – A COMPARISON BETWEEN THE SUSTAINABILITY OF INDITEX AND H&M'S SUPPLY CHAINS

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Abstract:

In an industry facing major unsustainability issues, companies struggle to implement sustainable practices, to ensure the sustainability of their supply chains. Sustainable fashion supply chains are a source of competitive advantage if applying sustainable manufacturing, eco-material production, green distribution, green retailing and ethical consumer practices. We will analyze the action of two companies, Inditex, and H&M, companies recognized for the efforts they undertake in order to ensure the sustainability of their supply chains, businesses and brands.

Key words: supply chain management, sustainable supply chain management, sustainability

1. Introduction

In the textile and apparel industry, supply chain management plays a very important role. The major core topics of the fashion supply chains are supply chain coordination, the use of information systems, risk management, and the sustainability of the supply chain management (Choi, 2012).

The supply chain coordination assumes the maximization of the supply chain performance throughout a joint effort undertaken by the supply chain members. The supply chain coordination can be achieved by using *VMI (vendor-managed inventory)* and the *incentive alignment contracts (rebates contracts, quantity discount order, minimum order quantity contract, markdown money sponsorship contract)*. The VMI is a measure, which places the manufacturer and the retailer in a single unit, working hand in hand, so that the manufacturer takes into

account the data regarding the retailer's target inventory and inventory level, the forecast of the demand, and the sales performance. In the textile and apparel industry, the VMI is not implemented on a large scale, as it is still perfectible (Choi, 2012), opposite to the supply contracts, which are commonly used (Kurata et al., 2011; Huang et al., 2011).

Besides coordination, a modern textile and apparel industry supply chain needs to use also **the information systems (like RFID)**, which affect operations and the implementation of various strategies. Many fashion retailers implemented RFID (radio frequency identification) (Choi, 2012) and also business intelligence – multi-level e-multi-agent early warning mechanism, meant to prevent the loss of customers, by improving customers' satisfaction,

throughout better communication, connection and information sharing between the supply chain members (Lo and Hong, 2011). Au and his colleagues (Au et al., 2012) mention the use of ANN (artificial neural networks) as a method of forecasting, with positive results in fashion sales predictions.

Apart from coordination and the use of information systems, market conditions (volatile market demand and the price of commodities) impose on fashion companies to pay great attention also to **risk management**. In order to explore the inventory decision and optimal pricing at the level of the fashion industry, Chu, and his colleagues (Chu et al., 2011) used the VaR (value-at-risk) approach. However, portfolio management, risk hedging, and mean-variance are also included in the risk management process (Choi, 2012).

A fourth important aspect when it comes to fashion supply chain management refers to the **sustainability** of the supply chains. In recent years the world of fashion revolutionized and fast fashion strategies are now in trend, strategies, which aim to satisfy the customer demand at its peak, by reducing the buying cycle and lead times, shortening the time in which new fashion becomes available into stores. The fashion market characterizes itself by rapid changes, therefore, flexibility and responsiveness are mandatory, not to mention an agile supply chain, as a critical factor, distinguishing success from failure (Christopher et al., 2004). The agile supply chain, however, was confronted with a lot of sustainability and ethical issues. Pollution, modern human slavery, carbon emissions, resources management are only a few of the issues the industry experienced over the last couple of years. Therefore,

the environmental and social footprints became major concerns at the level of the fashion industry, besides the economic footprint. Lately, sustainable supply chains report themselves to three sustainability pillars – the “Triple Bottom Line” (Slaper and Hall, 2011): economic, social and environmental. Another important concern when it comes to supply chains refers to their ethical dimension – the corporate social responsibility of apparel companies. At the level of a supply chain, both distribution and production are affected by the perceived CSR value of an apparel company. Consumers purchase apparel products based on the ethical measures an apparel company embraces (Choi, 2012).

2. Sustainable fashion supply chains

A growing industry, with an approximate consumption of 30 million tons of textiles per year (Shen, 2014) is inevitably bounded to experience sustainability issues. Developing countries with lower environmental awareness and a looser environmental regulatory system attract fashion companies in pursuit of lower production costs (Nagurney and Yu, 2012). Although a lot of fashion companies were blamed due to their sustainability issues, nowadays, many of them acknowledge the importance of incorporating sustainable practices into their supply chain, so as to ensure the same environmental conditions and resources are available also for future generations.

Sustainable supply chains are crucial for the fashion industry, a labor-intensive industry, with significant economic, societal and environmental footprints. According to Shen and his colleagues (Shen et al., 2014), sustainable fashion is all about paying attention to a few key aspects, like:

sustainable manufacturing, eco-material preparation, green distribution/retailing, but also ethical consumers.

Sustainable manufacturing enforces human rights and environment protection, given the fact that more and more consumers envisage the effect their purchase has on promoting modern human slavery conditions in apparel manufacturing (Dickson, 1999) – sweatshops. Sustainable manufacturing became of crucial importance after the 2013 Bangladesh fire disaster, where less trained people worked in improper conditions and had no protection against this type of events. Besides the negative effects it has on human rights, the fashion industry also leaves a significant environmental footprint, due to its level of production and disposal, quick filling of landfills (as many apparel products are not biodegradable), and depletion of natural resources (Claudio, 2007). An assessment of the apparel companies', which introduced sustainable business practices along their supply chains are the ISO standards (moreover the ISO 14000 standard, verifies also the workflows within manufacturing).

Eco-material production includes the use of organic fabrics, produced with less water consumption and chemicals (De Brito et al., 2008), but also reused and recycled materials.

Green distribution is a major challenge at the level of the fashion industry, due to its complexity and speed, as season cycles are much shorter than the traditional two main seasons (Deloitte, 2013). In this stage, the control of carbon emissions is crucial. In a study, Nagurney and Yu (2012), state that the performance of a supply chain is influenced by the adoption of pollution reduction technologies in distribution. The choice of an efficient transportation has a huge

impact on the carbon emissions level, as the fast fashion industry characterizes itself by quick response strategies implying short lead times. Inevitably, carbon emissions are associated with transportation, and therefore, also with the fashion industry. An interesting study performed by Choi (2013) introduces a carbon footprint taxation scheme, through which the environmental sustainability of the fashion industry can be increased if fast fashion retailers source more locally. A possible improvement of the level of emissions could be achieved using the smart mobility perspective, also on the merchandise transport. Smart mobility is a concept assuming not only the collection of information from both transport services providers and users, but also a better synchronization of the information between the two, with the help of IT solutions (Bîzoi, C.G., 2015).

Another sustainable supply chain practice is **green retailing** encouraging **ethical consumer practices**. Lately, customers are very interested in sustainability practices, and the sustainability of a brand. This is another manner through which consumer interest and loyalty can be increased, as there are more and more consumers willing to purchase eco-fashion products (Shen et al., 2012). Therefore, marketing and branding should focus also on sustainable practices (Muntean and Stremtan, 2010). Chan and Wong (2012) feel that the fashion consumer sustainability increases, if introducing recycling options in stores (green retailing encouraging ethical practices).

Ethical consumers are the target in the case of innovative fashion products obtained sustainably. Nowadays, consumers are very interested in the sustainability of the products they use and tend to prefer eco-fashion brands (Beard, 2008) providing transparent information about

their supply chains. Paulins and Hillery (2009) see the purchase of sustainable fashion as a psychological need, through which humans express attitudes of equality and sustainability.

A sustainable supply chain refers to all its components from raw material production to retailing.

An example of an apparel supply chain can be found in **Figure 1**.

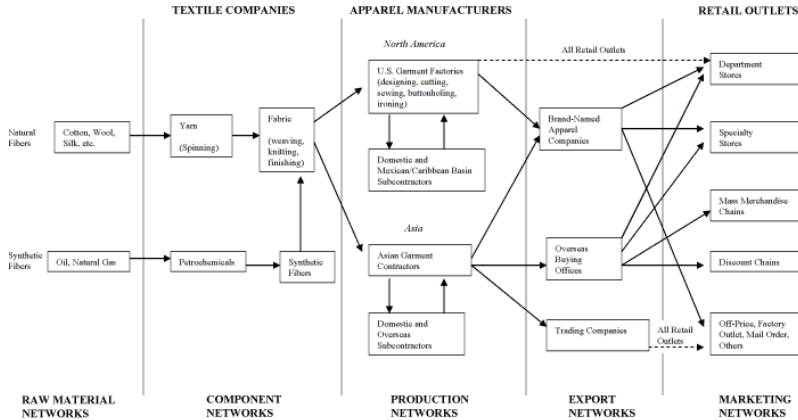


Figure 1 - The Apparel Commodity Chain
 Source: Gereffi, G., 2002

The management of a fashion supply chain is a difficult and challenging task, especially if wanting to ensure its sustainability. Companies undergo serious efforts to take into account the economic, social and environmental impacts of their activities and some are recognized for their efforts.

3. Can fast fashion companies have sustainable supply chains? A case study comparing the Inditex and H&M supply chain

In the following part of our paper, we will focus on two fashion companies, which advanced in international supply chain rankings (Gartner) and currently hold the 5th (Inditex) and the 7th (H&M) places worldwide. We will analyze, the sustainability of their supply chains, according to the Gartner global supply chain ranking, and also on their efforts

to implement sustainable manufacturing, green distribution, eco-material preparation, green distribution/retailing, but also encourage consumers to behave ethically (Choi's description of a sustainable fashion supply chain – Choi, 2012).

Leadership is the key aspect analyzed by the Gartner Supply Chain Top 25, ranking which is performed on an annual basis, exemplifying the actual supply chain's ideal, namely a demand-driven one. The Gartner Inc. identifies global supply chain leaders and promotes their best practices. Each ranking has two components: the financial one (the past financial performance) and the opinion-based one (refers to the potential and expected future leadership characteristics), later combined in a composite score. The Gartner ranking comprises of Fortune Global 500 and Forbes Global 2000 companies, which

are segmented in sectors like manufacturing, retail and distribution. Some industries are eliminated from the analysis (financial services and insurance). In 2015, Inditex and H&M

have obtained very good positions advancing each year in the general ranking and now find themselves in the top 10 (Gartner, 2015).

Table 1 - The Gartner Supply Chain Top 25 – 2010-2015

Company	Ranking per Year					
	2010	2011	2012	2013	2014	2015
Inditex	23	19	15	12	11	5
H&M	-	-	17	17	13	7

Source: Gartner Supply Chain Top 25

Table 2 - The Gartner Supply Chain Top 25 – 2010-2015

2015 Rank	Company	Peer Opinion (200 voters) (25%)	Gartner Opinion (35 voters) (25%)	Three-Year Weighted ROA (25%)	Inventory Turns (15%)	Three-Year Weighted Revenue Growth (10%)	Composite Score
5	Inditex	1,003	297	17.0%	3.8	8.8%	4.04
7	H&M	809	89	26.6%	3.7	12.8%	4.01

Source: Gartner Supply Chain Top 25

In 2015, Inditex's best performances, which led to the advancement within the ranking, refer to the reusable item-level RFID tracking system (allowing efficient inventory control, stock replenishment, security control and better customer service) valid for each garment sold in a Zara store. Moreover, the object of our analysis, the supply chain, is appreciated for its continuous improvements in terms of social responsibility, Inditex being a company which provides living wages for textile workers along its supply chain (Inditex obtained the highest score from the retail sector according to the Dutch Association of Investors for Sustainable Development assessments).

At the level of the same year, besides the spectacular financial performance, H&M's supply chain was appraised for the management of its

product life cycle with designers and suppliers. Given H&M's expansion into e-commerce, a challenge will be to reinvent its ability to capture demand and fulfill along all channels. Besides having a very good position within the Gartner supply chain top, H&M received several other sustainability and social responsibility awards (e.g. 2015 World's Most Ethical Company according to Ethisphere Institute) (Gartner, 2015).

In order to better portrait their sustainability efforts, both Inditex and H&M, included in their sustainability reports, materiality matrices, according to the provisions of GRI 3.1. Guidelines. The Global Reporting Initiative designed the GRI guidelines, to help organizations, which have numerous indicators and topics, to select the few relevant ones to include in their sustainability reports. Those indicators

and topics were reasonably considered to be important for the economic, social and environmental impact, and which could influence the stakeholders' decisions. The threshold at which indicators or topics become important

enough is, according to the Global Reporting Initiative, the materiality. The materiality is what separates important material topics or indicators from non-relevant ones (Global Reporting Initiative).

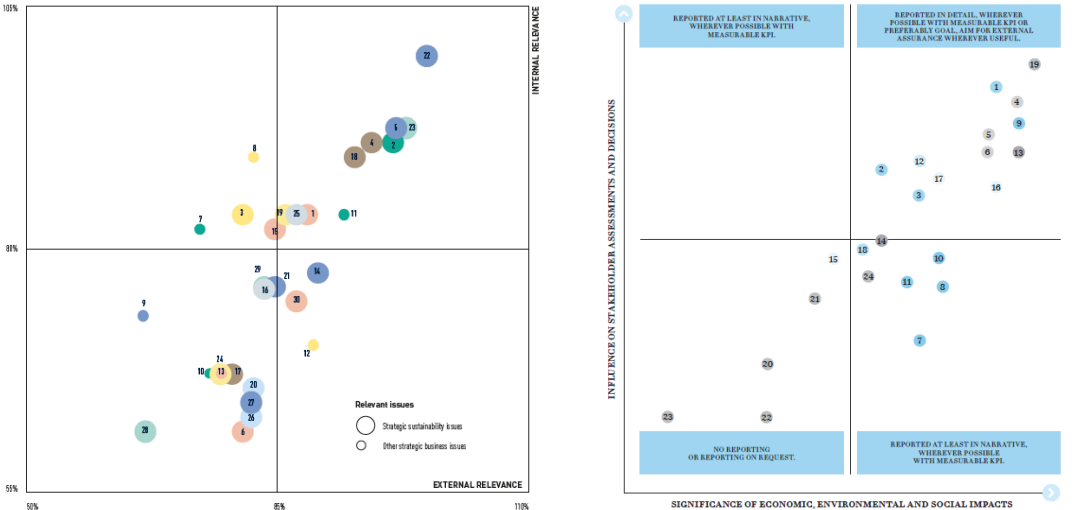


Figure 2 – Comparison between the 2014 Inditex and H&M Materiality Matrix
 Source: 2014 Inditex and H&M Annual Reports

In 2014, Inditex has drafted the fourth consecutive materiality matrix, prioritizing their relevant issues. The 2014 matrix defines the topics and indicators to be developed in the Annual Report and aligns the company's strategies and practices with the expectations and concerns of its stakeholders. The Inditex evaluations

and decisions are influenced by the constant dialogue with their stakeholders (employees, customers, non-profit organizations, companies from the communication sector, and others), fact which enables them to evaluate their economic, social and environmental impacts. For Inditex, the relevant material issues of 2014 were:

Table 3 – 2014 Inditex material issues

1 Corporate governance	6 Green Design	11 Logistics model	16 Development of human capital	21 Control of discharges	26 Waste management
2 Code of Conduct and Responsible Practices	7 Changes in consumption habits	12 Expansion in new markets and in emerging markets	17 Energy consumption and GHG	22 Human rights and working practices in the supply chain	27 Recycling systems and management of the product end of life

3 Corruption	8 New sales channels	13 Exposure in mature markets	18 Traceability of the supply chain	23 Health and safety in manufacturers and suppliers	28 Protection of biodiversity
4 Customer relations and satisfaction	9 Volatility of raw material prices	14 Working practices	19 Capacity building of the supply chain	24 Animal welfare	29 Social action and local community development
5 Product quality, health and safety	10 Changes in regulation	15 Attraction and retention of talent	20 Water consumption	25 Responsible purchasing practices	30 Dialogue with and commitment to stakeholders

Source: 2014 Inditex Annual Report

According to the same GRI guidelines, in 2014, H&M designed a materiality matrix as well. They sketched this matrix having in mind the stakeholder feedback received after the release of the 2013 report and found out that the 2013 matrix was majorly still valid, with two adjustments:

the animal welfare advanced in terms of priority, given its significance to the economic, social and environmental impact, and also to their business strategy (they developed an animal welfare roadmap valid throughout their entire value chain);

H&M merged the “Improved Supplier Performance” into the focus area “Supply Chain Management”, as all the feedback they received, considered the two aspects to being closely connected.

For the H&M materiality matrix, 11 different stakeholder representatives gave their feedback (among which suppliers and their employees, colleagues, customers, industry peers, communities, investors, IGOs, NGOs, and policymakers), being known for their ability to make professional and critical judgements, on their know-how.

Table 4 – 2014 H&M material issues

Provide fashion for conscious customers	Choose and reward responsible partners	Be ethical	Be climate smart	Reduce, reuse, recycle	Use natural resources responsibly	Strengthen communities	Other
Conscious products and materials Involve our customers and colleagues Animal welfare	Supply chain management Fair living wages Industrial relations	Anti-corruption Employer of choice Human rights Diversity & equality Responsible marketing	Climate (emissions from our Own operations; emissions along Our value chain) Reduce, reuse, recycle	Close the loop on textile fibers Waste	Packaging Water stewardship Chemical management	Community development (investments in shared value; community support; making a difference beyond H&M's value chain – the H&M conscious foundation)	Economic performance Market presence Biodiversity Environmental Expenditures Anti-competitive behavior Responsible tax planning

Source: H&M Annual Sustainability Report

Inditex and H&M have enumerated all the aspects considered to be most relevant in their materiality matrices. In the following part of this paper, we will focus on the four main dimensions:

A. Sustainable manufacturing (number and distribution of suppliers)

B. Eco-material preparation (organic cotton use, water consumption, reused / recycled garments)

C. Green distribution/ retailing (energy consumption, emissions)

D. Ethical consumers/ Social responsibility actions (Social/ community investments, involvement in social programmes).

3.1 Sustainable manufacturing

H&M and Inditex have undergone several efforts to ensure sustainable manufacturing, proper labor conditions and wages, healthy and safe working conditions.

Inditex's main concern in ensuring the sustainability of its supply chain are the close relationships with its suppliers, so as to be able to design programmes adapted to their situation, but also to respect their business model. In order to keep these close relationships, a key aspect is getting to know the suppliers, having constant audits to ensure quality standards and continuous improvements. All these are preconditions, which help Inditex obtain production traceability, a key component of the sustainable management of the supply chain. In 2014, Inditex introduced production audits in the supplier clusters, which with the help of suppliers, who introduce information into the online Manufacturer Management System, ensure an assessment of capacities, processes, time frames and production units. With the help of this method, Inditex is able to ensure the respect of the provisions of the Suppliers Code of

Conduct, meant to promote the protection of human rights. Inditex strengthened the sustainability of its supply chain by having a Code of conduct for Manufacturers and Suppliers, a Compliance Programme, and a Strategic Plan for the timeframe 2014-2018 (Inditex, 2014).

H&M has sustainability, quality, price, and lead times requirements from its suppliers, so as to ensure a sustainable supply chain. The company pays attention to their suppliers and the production conditions, in order to keep improving their supply chain. The major challenges remain wages, excessive overtime, health and safety, but also freedom of association and industrial relations. Other issues are human slavery, namely the Sumangali schemes (forced labor present in spinning mills from India), health, and social dialog from Cambodia, and fire and building safety, especially in Bangladesh. These issues require complex solutions designed at the level of the entire industry. H&M acknowledges the fact that their supply chain is subject to further improvement, and for that purpose they intend to have a close collaboration with their suppliers, industry peers, unions, and governments. H&M measures the sustainability performance of their suppliers with the help of their Index Code of Conduct (ICOC), attributed to each factory and supplier, on a regular basis, as a result of audits. The ICOC scoring obtained by suppliers enables them to become strategic partners, who benefit from training and support on behalf of the H&M Company, helping them to improve their overall performance. H&M encourages its suppliers to take responsibility for their social and environmental impacts and connect with their local stakeholders (H&M, 2014).

At this number of suppliers, it is difficult for any company to ensure a sustainable supply chain. Not only the number of the suppliers is considerable, but also the different regions of the world where they come from, and the

different cultural habits they possess. In terms of the number of suppliers Inditex has almost the double number of suppliers H&M has, and also the factories located in different parts of the world.

Table 5 – Inditex and H&M number of suppliers per year

No.	Company	Year					
		2009	2010	2011	2012	2013	2014
1	Inditex	1,186	1,490	1,490	1,434	1,592	1,625
2	H&M	700	700	750	785	872	850

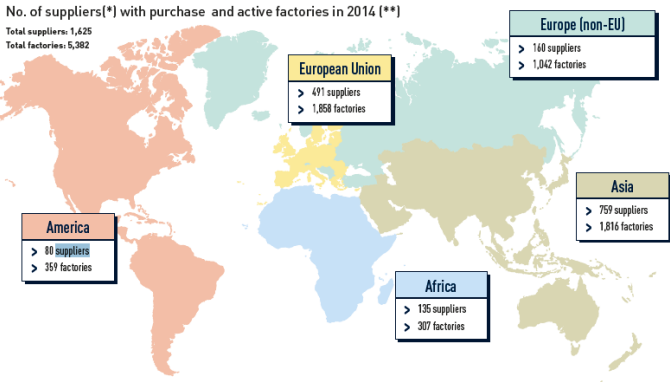
Source: Inditex and H&M Annual Sustainability Reports

However, we can conclude that most of the suppliers and factories, both Inditex and H&M work with are located in the Far East, region known

for its sustainability issues. Therefore, it is a very difficult task to coordinate and ensure the sustainability of the supply chain.

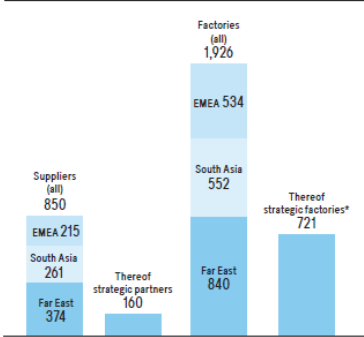
Inditex supplier in 2014

H&M suppliers in 2014



(*) Suppliers of fashion items, mainly clothing, footwear and accessories, with a production of over 20,000 units. Suppliers with smaller production account for 0.43% of total production.
(**) Textile, footwear and accessories factories declared as active by suppliers of fashion items - mainly clothing, footwear and accessories - with a production of over 20,000 units.

NO. OF SUPPLIERS AND FACTORIES BY REGION (1ST TIER) 2014



*Including both manufacturing and processing factories

One supplier can own or use (subcontract) one or more factories. Strategic partners are our preferred suppliers. Strategic factories are manufacturing or processing factories that are owned or used by our strategic partners. We regard owned and subcontracted factories the same way and treat them according to the same terms through our supply chain management strategy.

Figure 3 - 2014 Inditex and H&M suppliers
Source: Inditex and H&M Annual Sustainability reports

The next sustainability dimension analyzed for the Inditex and H&M companies is the eco-material preparation.

3.2 Eco-material preparation

The eco-material preparation dimensions we will refer to in our analysis of the Inditex and H&M supply chains are the use of organic cotton, the reuse/ recycle of garments and water consumption.

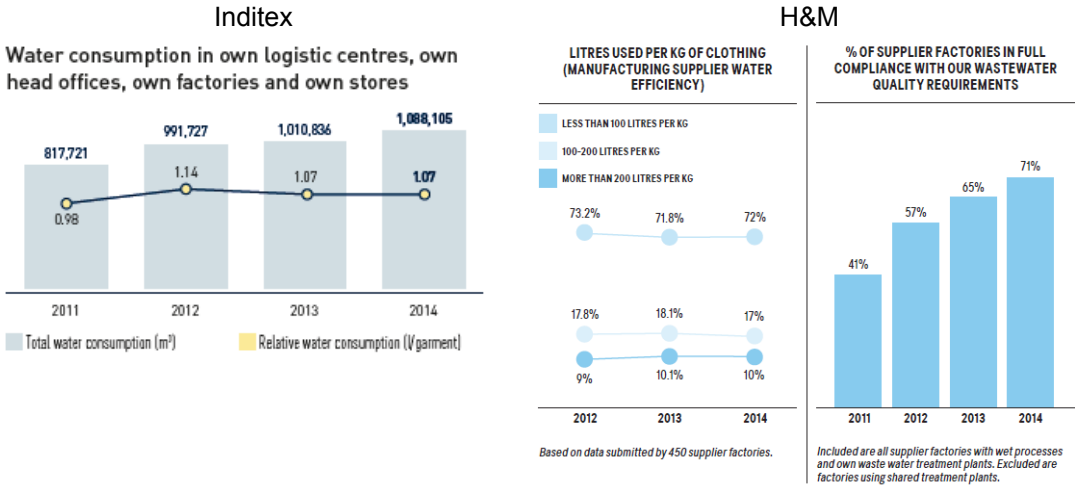


Figure 4 – The water consumption for the Inditex and H&M companies over the last four years

Source: Inditex and H&M Annual Sustainability Reports

More than 60% of the Inditex suppliers (39.8% - India, 48.5% - China and 52.5% - Bangladesh) respect the production standard meant to ensure a sustainable environment in all wet processes for the Green to Wear products. The suppliers from India, China, Bangladesh, Turkey and Cambodia were trained to respect this philosophy and in this manner, strengthen the H&M supply chain. Their 2020 objective is 0 discharge of hazardous substances. For the supplier waste water management, Inditex works in collaboration with the University of A Coruña, for the analysis of 280 water samples, to detect the five most relevant discharged chemical groups and their source of origin. The collaboration with the university helps Inditex improve their suppliers' waste water purification facilities. Inditex also

has a Master Plan for Water, available online for all its suppliers. The correct waste water management enables Inditex's suppliers, with the help of a standard purification plant to partly reuse some of the treated water, by mixing it with clean one, and so using it again in the wet processes. The objective for an environment sustainable wet process, at the level of the supplier factories is constant for Inditex. And, therefore, in 2014, they developed a new standard for environmental sustainability for their Green to Wear products, including all phases of manufacturing (pre-treatment, printing, dye, wash, tanneries and artificial leather, finish). This standard concentrates on the cleaner production, less intensive resource consumption, and creates a

more sustainable, healthy and safe fashion (Inditex, 2014).

H&M has a very ambitious target, to become the fashion's industry water steward, in the conditions in which the water scarcity risk was acknowledged to be the highest risk, according to the World Economic Forum. The fashion industry is a water-intense industry along its value chain, as dyeing fabrics, growing cotton, creating washed out looks, all have a major impact on water resources. Still, the communities along that value chain have to have clean water at their disposal. H&M made a commitment to responsibly use the natural resources and for that purpose, teamed up, with several organizations like WWF, Solidaridad, and others, in their pursuit of implementing new standards for the fashion industry. H&M analyzed their value chain for water footprint and found that the raw material production has the most important water footprint (as cotton production is water-intense). Due to the cotton

production conditions, H&M aims, to use, by 2020, cotton from more sustainable sources. Another major water footprint (the third) is attributed to the fabric production and garment finishing from suppliers with in-house wet processes. H&M suppliers with such wet processes are located mostly in the Brahmaputra (Bangladesh) and the Yangtze (China) river basins. In those regions, as we mentioned before, the cultural aspects play a vital role, therefore, the implication of local stakeholders and decision-makers is crucial, in order to achieve real sustainable conditions. H&M together with WWF acknowledges the importance water has, for biodiversity, for the future of communities, the environment and last, but not least for a sustainable business, reason for which they conceived also a water stewardship strategy (H&M, 2014).

Both companies are water-intense as it can be seen in the following figure:

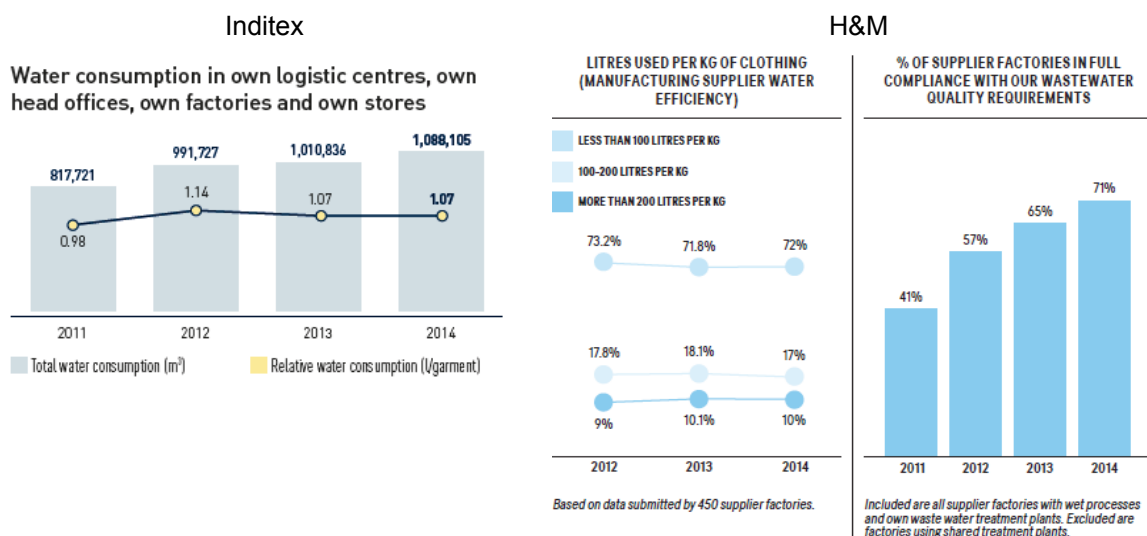


Figure 5 – Inditex and H&M water consumption over time
 Source: Inditex and H&M Annual Sustainability Reports

The water issue became highly important especially after the Greenpeace 2011 Detox Fashion campaign, which exposed the relationship between toxic water pollution and global fashion brands, and their suppliers. After testing the garments of some clothing brands, hazardous chemicals were found, a fact which lead to the conclusion that clothes are toxic. Inditex and H&M committed to eliminating all hazardous chemicals from their products and supply chains (Greenpeace, 2011).

Another important process is the recycle – reuse of garments. Both H&M and Inditex committed to using organic cotton to reduce their environmental footprint.

More so, H&M collected clothes and used 20% of recycled cotton in the 2014 collection. However, this percent is rather low, and in order to be increased, further technological innovation is necessary (H&M, 2014). Founded in Sweden, a country positioned among the innovation leaders at EU level (Bîzoi, C.G., Şipoş,

G.L., 2015), H&M encourages innovation along its supply chain. H&M aims to increase the percentage of reused cotton, without affecting the quality of their products, and their 2015 target is to increase the clothing pieces, containing recycled fabric by more than 300% compared to 2014 (H&M, 2014). According to the Organic Cotton Market Report, H&M together with C&A continue, for the fifth year in a roll, to lead the clothing industry, which made a long-term commitment to use organic cotton and further ambitious targets to improve the sustainability of their supply chains (Textile Exchange, 2013, 2014). According to the same publication, Inditex occupied the 4th place in 2010 and 2011, the 8th place in 2012, and the 10th place in 2013 and 2014, in terms of organic cotton use. In 2014, Inditex used 92% more organic cotton (1,009 tons) and had 5.5 million items made out of organic cotton, 3.5 million items with 50% organic cotton, and 1.2 million items with only 5% organic cotton (Textile Exchange, 2013, 2014).

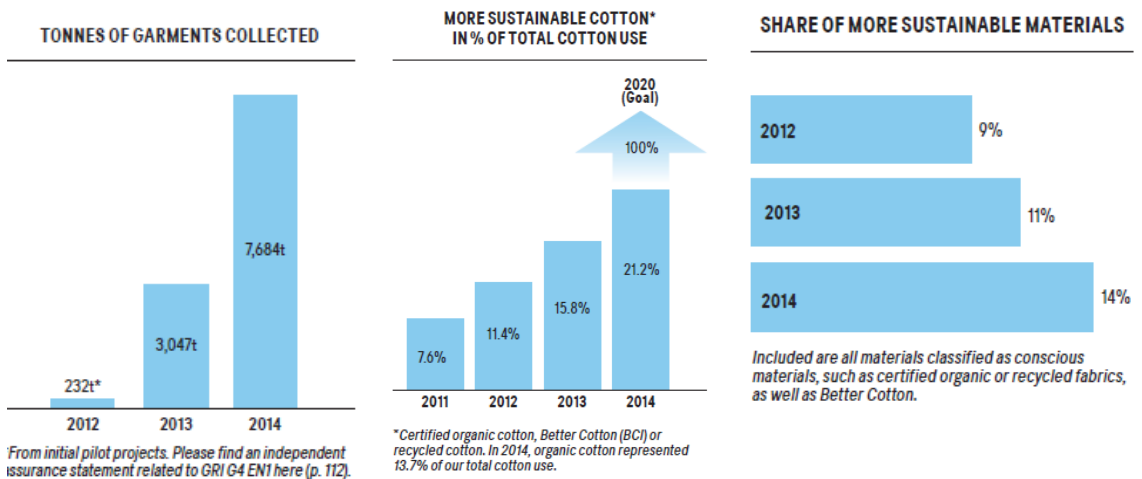


Figure 6 – H&M sustainable cotton and materials, and the collected garments
 Source: H&M annual sustainability reports

Inditex aims to promote more sustainable textiles, therefore, performs trainings for both designers and purchasers, to use organic and recycled textile fibers, but also uses artificial textile fibers (viscose, lyocell and modal), with care towards the origin of those fibers (the forests from which they come should be managed in a sustainable manner) (Inditex, 2014).

3.3 Green distribution/ retailing

In 2014, Inditex continued to reduce the energy consumption and derived emissions along its value chain. Throughout sustainable logistics measures and more than 50% of the consumed energy produced in proximity, the transport is improved. Inditex reuses and recycles the circuits for the alarms, plastics, boxes and hangers, used for the shipment of items to their eco-stores. Their objective is to respect the provisions of a circular economy (a priority of the “Seventh Environmental Plan of Action of the EU”), meant to help the EU become a competitive, efficient and green economy, in terms of resource use and CO₂ emissions (Inditex, 2014). Inditex uses the directives of the Intergovernmental Panel on Climate Change – IPCC and of the World Resources Institute to calculate their GHG emissions. The energy consumption associated emissions were calculated with the help of an emissions factor (made as an electricity mix of each of the 88 countries Inditex

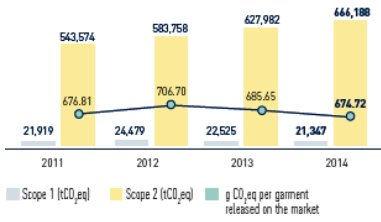
works with). The Inditex GHG emissions are direct and indirect, calculated for the time frame 01 February 2014 – 31 January 2015 and include four scopes:

Scope 1 - Direct Emissions – the emissions from sources under the control of Inditex (electricity and heat generation - associated emissions from own premises, occasional or isolated leaks – associated emissions of HFC and PFC gases from air-conditioning equipment were not included, own vehicles – associated emissions).

Scope 2 – Indirect emissions. Bought thermal energy or generated energy – associated emissions (not included: the international offices used electricity). Inditex modified the calculation methodology and included a country-specific emission factor correspondent to the locations they operate in.

Scope 3 – The supply chain produced goods and services (outside of the organization)-associated emissions. This scope is optional and includes the downstream associated emissions, correspondent to the transport of products from logistics centers to stores, made by external logistics operators and the electricity consumption – associated emissions from franchise stores. The emissions of the external logistics operators are calculated based on the vehicles they use to transport the goods and products (Inditex, 2014).

GHG emissions scope 1 and 2

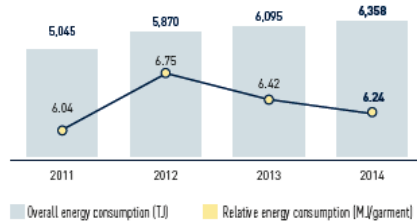


	2011	2012	2013	2014
Scope 1 (t CO ₂ eq)	21,919	24,479	22,525	21,347
Scope 2 (t CO ₂ eq)*	543,574	589,758	627,982	666,188
Number of garments released on the market	835,524,467	869,167,058	948,745,988	1,018,995,911
g CO ₂ eq per garment released on the market**	676.81	706.70	685.65	674.72

*Scope 2 emissions are not comparable with previous years as the calculation method has been modified as explained in the previous section.

**The efficiency ratio includes emissions associated with the Group's operations (scope 1 and 2)

Overall energy consumption (TJ)



	2011	2012	2013	2014
Scope 3 - Downstream Transport (t CO ₂ eq)	332,097	398,158	462,120	596,316
Scope 3 - Franchised store (t CO ₂ eq)*	94,074	100,143	108,035	113,094

*Additional emissions (scope 3) from franchise stores are not comparable to previous years due to the modification of the calculation method explained in the previous section.

Figure 7 – Inditex GHG emissions and overall energy consumption

Source: 2014 Inditex Annual Sustainability report

H&M analyzes carefully the impact of their suppliers, colleagues, and customers, as climate change affects all planet. The highest H&M energy consumption (about 80%) occurs in their stores. Currently, they try to reduce consumption, and also use electricity from renewable sources, as a manner to reduce their emissions.

Although the retail business is a relatively low-carbon business, the decrease of emissions is an important contribution to the environment. H&M acknowledges that the highest environmental impact is held by their value chain and outside their operators

(for the production of raw materials like cotton – 12%, for other fabric production – 36%, and for the use and wash of clothes by H&M customers – 26%). The challenge H&M is facing requires them to have the same demands from their business partners (whom with they do not have a direct relationship), like the ones they have from themselves and their first-tier suppliers. H&M involved their customers, suppliers (first- and second-tier), and transport providers in their pursuit to reduce their environmental impact.

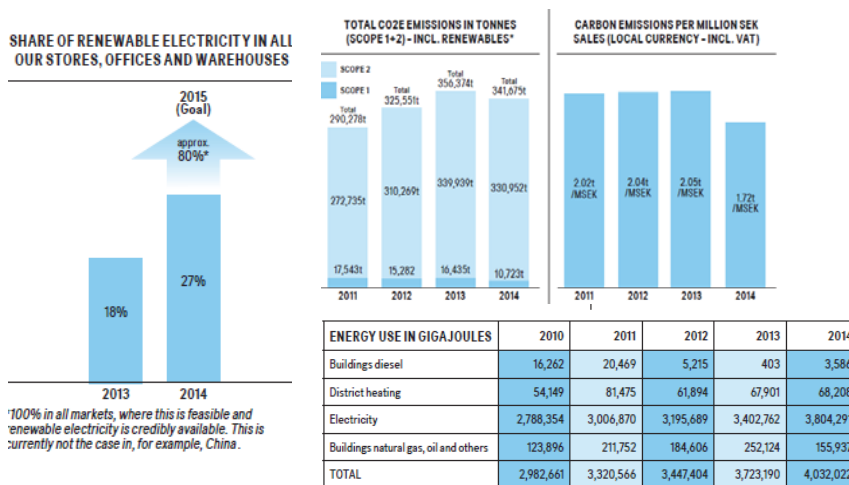


Figure 8 – H&M CO₂ emissions and energy use

Source: 2014 H&M Annual Sustainability report

H&M offers incentives (besides the mandatory contractual demands) to their manufacturing suppliers to encourage them use energy efficiently, and also have Cleaner Production programmes. Moreover, H&M included the fabric mills into their supplier auditing programme. Another H&M action with notable effects is their in-stores reuse and recycling programs.

3.4 Ethical consumers / Social responsibility actions

Nowadays, companies engage in social responsibility actions. Consumers became very socially responsible-sensitive and consume products from brands, which prove their attention towards community and environment. Both the companies analyzed have numerous social programmes, they have invested in, and the investments in such programmes continue to rise from one year to the next.

Present on 88 retail markets and over 50 countries (for production), Inditex acknowledges the social impact its activity has. Therefore, responsibility

and commitment are mandatory requirements, so as to counterbalance the impact of their activities. Inditex has initiated a model of investments in social programmes, in the purpose of strengthening the communities where the company is present and to improve global welfare. The voluntary involvement in socially responsible practices is a source of value within the company and the community. Together with other non-profit organizations, Inditex focuses on different social programmes, like:

- Emergency relief - India programme (Fight against child malnutrition, The fight against kala-azar), Turkey Programme (Assistance for Syrian refugees);
- Emergency programmes - Support for the MSF Emergency Unit, Ebola epidemic in Sierra Leone;
- Social welfare - Brazil Programme, Programme to promote employment in Spain for people suffering or at risk of suffering social exclusion, Bangladesh Programme, Cambodia Programme;
- Education - We Water Experience. China, Educating People, Generating

Opportunities (EPGO), America Programme, Colombia Programme, Inditex Chair of Spanish Language and Culture at the University of Dhaka, Bangladesh, Inditex-UDC Chair of Social Responsibility;

- Environment – Terra project;
- Sponsorship and patronage - Training and research, culture and sports, social assistance.

These programmes are mainly implemented in the countries where Inditex has production clusters. The number of social investments has grown over the years, reaching more than 25 billion euros (representing more than 1% of the company's net profits). The beneficiaries of these programmes, located in 40 countries are numerous: approximately 44,000 children were involved in education programmes, above 4,000 people received labor market training and 2 million people, from underprivileged areas received health care.

Another major objective of Inditex in terms of social responsibility is the supply chain wastewater. Therefore, they encourage their suppliers to have the same care towards the environment and monitor the wastewater (especially in China, throughout the non-profit organization Institute of Public and Environmental Affairs of China - IPE). Also, as of 2014, Inditex eliminated supply chain undesired water

repellants. More so, respecting their "Detox Fashion" commitment, launched ten million waterproof items, PFC free, on the market.

H&M on the other hand, conceived also a community development strategy in 2014, in their effort to strengthen the community and the locally taken business decisions. The strategy aims to bring long-term benefits for both business and community, transforming approximately 70% of all investments and donations into shared value investments (H&M key business goals, which can be addressed only by the joint work with partners from the community). Like Inditex, H&M also respects its "Detox fashion" commitments taking care of wastewater and reducing the chemicals use, innovating in sustainable raw materials, but also social programmes focused on education and health of women and youth, employment, garment or financial donations in emergency situations. Some of the H&M community programmes are: All for children, HIV/AIDS awareness, Safe water, hygiene and sanitation, Fire prevention in garment factories, Education, Disaster relief, Donations, Education and poverty eradication, Children's' rights, Access to safe water.

In the table below, we can see the Inditex and H&M investments:

Table 6 – Comparison between Inditex and H&M in terms of social/ community investments and garment donations

Company	Indicator	Year					
		2009*	2010	2011	2012	2013	2014
Inditex	Investments in social programmes (mil €)	10,40	11,00	14,00	21,00	23,00	26,00
	Number of garments donated to social causes	-	-	-	615,404	648,072	612,743

H&M	Community investments (mil \$)*	4,70	5,30	6,20	6,80	7,55	50,70
	Number of garments donated to charitable causes (mil)	-	0,63	2,30	6,40	3,50	4,60

*For H&M the currency is converted from SEK as per Nov 30.

Source: Inditex and H&M annual sustainability reports

As we can see both Inditex and H&M have undertaken serious efforts to turn their supply chains into sustainable supply chains, and now are performing, sustainable supply chain companies at the level of the retail sector.

Conclusions

A company's performance depends on its sustainability concerns. The fashion industry changed over the last years and not only included sustainability dimension, but performed while doing it. The two selected companies from our case study demonstrate their sustainability performance in general, and the supply chain sustainability, in particular. Nowadays, an increased number of companies see the sustainability of their supply chain as mandatory and go through a lot of efforts to obtain it. Moreover, companies with high performance supply chain management could act (as an exception, for their expertise and know-how – because the authors thought about an independent supervising entity) as a supervising entity over other similar retail supply chains, and they would have the role to check if all national material flows are consistent with the launched orders, in all quantitative, qualitative and time aspects (Bîzoi C.G., Şipoş G. L., 2014), and improve all retail supply chains, according to the best performing companies' supply chain model.

The Carbon Disclosure Project reports, that, starting from 2012, approximately 40% of companies are very selective with their suppliers, and would stop their collaboration with the ones experiencing poor environmental practices, who did not adopt carbon management practices (Carbon Disclosure Project Supply Chain Report, 2012). There are numerous motivations for which companies integrate responsible business practices into their supply chains. Supply chain sustainability delivers also rewards, it is not a simple matter of minimizing the inherent social and environmental risks. Other motivations to ensure the sustainability of supply chains would be the compliance with laws and regulations promoting the sustainable business conduct and also because today's society expects companies to acknowledge their economic, social and environmental impacts.

Last, but not least, the sustainability of a business ensures benefits also for the business performing it. In their pursuit to have a sustainable supply chain management, aiming social, economic and environmental performance, companies act firstly, in their own interest, then in the interest of their stakeholders, but also in the interest of the entire society (UN, 2010).

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